IN THE CLAIMS

Amend the claims as indicated below.

1   1.   (currently amended) A computer-implemented method for generating a
2   schedule for a plurality of employees with varying skill sets for a time period, wherein
3   the plurality of employees have varying overlapping skill sets that enable them to
4   perform various tasks, and wherein employees are shared across tasks within the time
5   period, the method comprising:
6   receiving a plurality of user inputs to a scheduling program, including a number
7   of employee designations that each refer to a unique employee, and a number of skill
8   sets that each correspond to one of the employee designations; and
9   during the method for generating the schedule, determining an effect on the
10   schedule of an incremental change to the plurality of user inputs, including,
11   receiving a user input that changes the number of employee designations
12   by indicating at least one changed employee;
13   estimating an effect of the at least one changed employee on effective
14   staffing levels for each of the various tasks, wherein the estimating uses as an input a
15   skill set associated with the at least one changed employee;
16   determining whether to simulate the schedule based at least in part on an
17   adaptive algorithm; and
18   generating estimated effective staffing levels for each of the various tasks.

1   2.   (original) The method of claim 1, wherein the user input that changes the
2   number of employee designations has an effect chosen from a group including adding at
3   least one employee designation and subtracting at least one employee designation.

1   3.   (previously presented) The method of claim 1, further comprising,
2   determining a number of changes that can be made to the schedule during the scheduling
3   method without simulating a proposed schedule, wherein determining includes

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4   comparing a predetermined amount of allowed error and a cumulative error that results
5   from estimating.

1   4.   (original) The method of claim 3, wherein estimating comprises:
2   calculating a total effective work a changed employee will perform; scaling each
3   task by at least one predetermined factor; and
4   adjusting a work distribution for every unique employee other than the changed
5   employee based upon the total effective work the changed employee will perform.

1   5.   (original) The method of claim 4, further comprising distributing the
2   changed employee's effective work across the plurality of tasks.

1   6.   (original) The method of claim 4, wherein the at least one predetermined
2   factor includes a measure of average time to handle a subtask divided by a number of
3   subtasks per time interval, and a measure of how much work remains in a task based
4   upon results of a previous simulation.

1   7.   (original) The method of 4, wherein calculating a total effective work a
2   changed employee will perform comprises applying a function to: a number of skills of
3   the changed employee; proficiencies of the changed employee; and priorities of the
4   changed employee.

1   8.   (original) The method of claim 4, wherein adjusting the work distribution
2   for every unique employee other than the changed employee includes adjusting an
3   effective contribution to each task worked by one of the other unique employees by a
4   factor reflecting that a different amount of work will be required for tasks worked by the
5   changed employee.

1   9.   (original) The method of claim 1, wherein the schedule is for staffing a
2   call center, and wherein the plurality of employees comprises a plurality of agents.

1   10.   (original) The method of claim 6, wherein the schedule is for staffing a
2 call center, wherein the plurality of employees comprises a plurality of agents, a task
3 comprises a call queue, and a subtask comprises a call.

1   11.   (original) The method of claim 10, wherein the varying skill sets include
2 multiple skills for each agent, and wherein each agent may work on multiple call queues
3 in one time period.

1   12.   (original) The method of claim 1, further comprising dividing the method
2 such that the method is performed on multiple parallel processors comprising, dividing a
3 schedule into time intervals such that a schedule for each of the time intervals is
4 processed by a different processor.

1   13.   (original) The method of claim 1, further comprising dividing the method
2 such that the method is performed on multiple parallel processors comprising,
3 performing the scheduling process on one processor, and performing simulation on
4 multiple different processors.

1   14.   (currently amended) A system for generating a schedule for a plurality of
2 employees with varying skill sets for a time period, wherein the plurality of employees
3 have varying overlapping skill sets that enable them to perform various tasks, and
4 wherein employees are shared across tasks within the time period, the system
5 comprising:
6   at least one server comprising at least one storage device;
7   at least one client processor coupled to the server through a network, wherein the
8 client processor is coupled to a plurality of storage devices, including a storage device
9 that stores instructions that, when executed, cause the at least one client processor to,
10   receive a plurality of user inputs to a scheduling program, including a
11 number of employee designations that each refer to a unique employee, and a number of
12 skill sets that each correspond to one of the employee designations; and

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13   during execution of the scheduling program, determine an effect on the

14   schedule of an incremental change to the plurality of user inputs, including,

15   receive a user input that changes the number of employee

16   designations by indicating at least one changed employee;

17   estimate an effect of the at least one changed employee on

18   effective staffing levels for each of the various tasks, including estimating using as an

19   input a skill set associated with the at least one changed employee;

20   determine whether to simulate the schedule based at least in part

21   on an adaptive algorithm; and

22   generate estimated effective staffing levels for each of the various

23   tasks.

1   15.   (original) The system of claim 14, wherein the storage device that stores

2   the instructions is accessed by the at least one processor through the network.

1   16.   (original) The system of claim 15, wherein the storage device that stores

2   the instructions is the at least one storage device of the server.

1   17.   (original) The system of claim 14, wherein the user input that changes

2   the number of employee designations has an effect chosen from a group including

3   adding at least one employee designation and subtracting at least one employee

4   designation.

1   18.   (original) The system of claim 14, wherein the instructions, when

2   executed, further cause the at least one processor to determine a number of changes that

3   can be made to the schedule during the scheduling process without simulating a

4   proposed schedule, wherein determining includes comparing a predetermined amount of

5   allowed error and a cumulative error that results from estimating.

1   19.   (original) The system of claim 18, wherein the instructions, when

2 executed, further cause the at least one processor to:

3   calculate a total effective work a changed employee will perform;

4   scale each task by at least one predetermined factor; and

5   adjust a measure of effective work for every unique employee other than the

6 changed employee based upon the total effective work the changed employee will

7 perform.

1   20.   (original) The system of claim 19, further comprising distributing the

2 changed employee's effective work across the plurality of tasks.

1   21.   (original) The system of claim 19, wherein the at least one predetermined

2 factor includes a measure of average time to handle a subtask divided by a number of

3 subtasks per time interval, and a measure of how much work remains in a task based

4 upon results of a previous simulation.

1   22.   (original) The system of 19, wherein calculating a total effective work a

2 changed employee will perform comprises applying a function to: a number of skills of

3 the changed employee; proficiencies of the changed employee; and priorities of the

4 changed employee.

1   23.   (original) The system of claim 19, wherein adjusting the work

2 distribution for every unique employee other than the changed employee includes

3 adjusting an effective contribution to each task worked by one of the other unique

4 employees by a factor reflecting that a different amount of work will be required for

5 tasks worked by the changed employee.

1   24.   (original) The system of claim 14, wherein the schedule is for staffing a

2 call center, and wherein the plurality of employees comprises a plurality of agents.

1   25.   (original) The system of claim 21, wherein the schedule is for staffing a

2 call center, wherein the plurality of employees comprises a plurality of agents, a task

3 comprises a call queue, and a subtask comprises a call.

1   26.   (original) The system of claim 25, wherein the varying skill sets include

2 multiple skills for each agent, and wherein each agent may work on multiple call queues

3 in one time period.

1   27.   (original) The system of claim 14, wherein the instructions, when

2 executed, further cause the at least one processor to divide the method such that the

3 method is performed on multiple parallel processors comprising, dividing a schedule

4 into time intervals such that a schedule for each of the time intervals is processed by a

5 different processor.

1   28.   (original) The system of claim 14, wherein the instructions, when

2 executed, further cause the at least one processor to divide the method such that the

3 method is performed on multiple parallel processors comprising, performing the

4 scheduling process on one processor, and performing simulation on multiple different

5 processors.

1   29.   (currently amended) An electromagnetic medium containing executable

2 instructions which, when executed in a processing system, cause the system to generate a

3 schedule for a plurality of employees with varying skill sets for a time period, wherein

4 generating the schedule comprises:

5   receiving a plurality of user inputs to a scheduling program, including a number

6 of employee designations that each refer to a unique employee, and a number of skill

7 sets that each correspond to one of the employee designations; and

8   during execution of the scheduling program, determining an effect on the

9 schedule of an incremental change to the plurality of user inputs, including,

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10   receiving a user input that changes the number of employee designations

11   by indicating at least one changed employee;

12   estimating an effect of the at least one changed employee on effective

13   staffing levels for each of the various tasks, wherein the estimating uses as an input a

14   skill set associated with the at least one changed employee;

15   determining whether to simulate the schedule based at least in part on an

16   adaptive algorithm; and

17   generating estimated effective staffing levels for each of the various tasks.

1   30.   (original) The electromagnetic medium of claim 29, wherein the user

2   input that changes the number of employee designations has an effect chosen from a

3   group including adding at least one employee designation and subtracting at least one

4   employee designation.

1   31.   (original) The electromagnetic medium of claim 29, wherein generating

2   the schedule further comprises, determining a number of changes that can be made to the

3   schedule during the scheduling process without simulating a proposed schedule, wherein

4   determining includes comparing a predetermined amount of allowed error and a

5   cumulative error that results from estimating.

1   32.   (original) The electromagnetic medium of claim 31, wherein estimating

2   comprises:

3   calculating a total effective work a changed employee will perform;

4   scaling each task by at least one predetermined factor; and

5   adjusting a work distribution for every unique employee other than the changed

6   employee based upon the total effective work the changed employee will perform.

1   33.   (original) The electromagnetic medium of claim 32, wherein generating

2   the schedule further comprises distributing the changed employee's effective work across

3   the plurality of tasks.

1   34.   (original) The electromagnetic medium of claim 32, wherein the at least
2   one predetermined factor includes a measure of average time to handle a subtask divided
3   by a number of subtasks per time interval, and a measure of how much work remains in
4   a task based upon results of a previous simulation.

1   35.   (original) The electromagnetic medium of 32, wherein calculating a total
2   effective work a changed employee will perform comprises applying a function to: a
3   number of skills of the changed employee; proficiencies of the changed employee; and
4   priorities of the changed employee.

1   36.   (original) The electromagnetic medium of claim 32, wherein adjusting
2   the work distribution for every unique employee other than the changed employee
3   includes adjusting an effective contribution to each task worked by one of the other
4   unique employees by a factor reflecting that a different amount of work will be required
5   for tasks worked by the changed employee.

1   37.   (original) The electromagnetic medium of claim 29 wherein the schedule
2   is for staffing a call center, and wherein the plurality of employees comprises a plurality
3   of agents.

1   38.   (original) The electromagnetic medium of claim 34, wherein the
2   schedule is for staffing a call center, wherein the plurality of employees comprises a
3   plurality of agents, a task comprises a call queue, and a subtask comprises a call.

1   39.   (original) The electromagnetic medium of claim 38, wherein the varying
2   skill sets include multiple skills for each agent, and wherein each agent may work on
3   multiple call queues in one time period.

1   40.   (original) The electromagnetic medium of claim 29, wherein generating
2   the schedule further comprises dividing the method such that the method is performed on

3   multiple parallel processors comprising, dividing a schedule into time intervals such that

4   a schedule for each of the time intervals is processed by a different processor.

1   41.   (original) The electromagnetic medium of claim 29, wherein generating

2   the schedule further comprises dividing the method such that the method is performed on

3   multiple parallel processors comprising, performing the scheduling process on one

4   processor, and performing simulation on multiple different processors.

1   42.   (currently amended) A computer-implemented method for generating a

2   schedule for a plurality of employees with various overlapping skill sets, the method

3   comprising:

4   initiating an automatic scheduling process that receives employee data including

5   skill sets as an input;

6   determining whether to simulate a proposed schedule, including measuring a

7   cumulative error of using an estimation function from results of the simulation, and a

8   predetermined allowed error;

9   if it is determined not to simulate the proposed schedule, continuing with the

10   method including evaluating and outputting the proposed schedule;

11   determining whether a change has been made to the employee data;

12   if a change has been made to the employee data, calculating an effective change

13   to staffing levels, wherein the calculating includes estimating an effect of at least one

14   changed employee on the effective change to staffing levels for a number of various

15   tasks, wherein the estimating uses as an input a skill set associated with the at least one

16   changed employee; and

17   continuing with the method including evaluating and outputting the proposed

18   schedule.

1   43.   (previously presented) The method of claim 42, wherein the skill sets

2   comprise abilities to service different call queues, and wherein calculating the effective

3   change to staffing levels comprises:

4   determining a total effective work a changed employee will perform, wherein a
5   changed employee is selected from a group comprising an added employee and a
6   removed employee; and
7   scaling each of a plurality of call queues to be staffed in accordance with the total
8   effective work of the changed employee.

1   44.   (previously presented) The method of claim 43, further comprising:
2   distributing the changed employee's effective work across the plurality of call
3   queues; and
4   adjusting other employees' effective work in accordance with the total effective
5   work of the changed employee.